

Moldova Compact

May 19, 2017



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Introduction

The Millennium Challenge Corporation's compact in Moldova invested \$259 million to improve the country's road infrastructure and support the transition to high-value agriculture. As a result of the compact, a 96 km section of a critical, highly deteriorated road connecting Moldova to Ukraine was rebuilt to international standards. In addition, 10 centralized irrigation systems that had fallen into disrepair, covering over 11,500 hectares, were upgraded, with management transferred to Water User Associations (WUAs) created under the compact to ensure sustainability. While information collected in 2015 indicates a lower impact of the irrigation project than estimated, other infrastructure and legal reforms enacted during the compact are key to transforming Moldova's agricultural sector into one focused on growth.

Country Context

Moldova, a former Soviet republic located between Ukraine and Romania, is the poorest country in Europe. Agriculture is the backbone of the economy and the country once served as an important exporter of high-value agriculture within the Soviet Union. However, like many former Soviet republics, irrigation was centrally managed by the state and suffered years of mismanagement and underinvestment. Following the collapse of the Soviet Union, Moldova lost its position as a key exporter of fresh produce, and its extensive irrigation systems and post-harvest cold chain ¹ fell into disrepair. The government had been slow to make reforms needed in the agricultural sector to attract private investment or funding from donors with an interest in advancing Moldova's fruit and vegetable exports. As a result, the sector suffered from low productivity, contributing to high rates of rural poverty. Still, Moldova has many of the necessary conditions to regain competitiveness in high-value agriculture and increase economic growth, including fertile soils, a relatively long growing season, and proximity to both European Union (EU) and former Soviet markets.

Like its irrigation infrastructure, Moldova's roads deteriorated significantly, since the country gained independence in 1991, raising the cost of production and trade. To address this critical barrier to economic growth, the Government of Moldova prioritized the rebuilding of the national road network with assistance from external partners. The country's National Development Strategy and Land Transport Infrastructure Strategy (2008-2017) represented a long-term vision to "provide the country with an efficient transport system that supports citizens' need for mobility and which facilitates trade in domestic and international markets, with a strong view of the role Moldova can play as a bridge between EU and Commonwealth of Independent States countries."

After successful completion of a threshold program designed to reduce government corruption in February 2010, MCC and the Government of Moldova signed a five-year, \$262 million compact in September 2010 to address the constraints outlined above. The Government of Moldova and MCC estimated that the compact would benefit 414,000 people and help lay the groundwork for sustained economic growth by improving road infrastructure and supporting the country's transition to high-value agriculture through irrigation and regulatory reforms. Under the MCC country ownership model, MCC's counterparts are responsible for implementing MCC-funded programs. Partner governments establish entities known as accountable entities known as MCAs to manage implementation for compact projects. In Moldova, MCA-Moldova was created soon after signing the compact to implement its programs.

- Original Amount at Compact Signing:
\$262,000,000
- Amount spent:
\$259,371,697
- Signed:
January 22, 2010
- Entry Into Force:
September 1, 2010
- Closed:

September 1, 2015

Estimated benefits at the time of investment correspond to \$262 million of compact funds, where cost-benefit analysis was conducted.

- 414,000 Estimated beneficiaries at the time of signing over 20 years

MCC considers beneficiaries of projects to be those individuals who realize improved standards of living, primarily through higher incomes, as a result of economic gains generated by MCC-funded projects.

- \$95,500,000 Estimated net benefits at the time of signing over 20 years

“Estimated Net Benefits” is the sum of all projected net benefits accruing over the life of the project, typically 20 years, evaluated at a 10% discount rate. Estimates are reported in millions of US dollars in the year that the ERR analysis was completed.

Created with Highcharts 6.0.1 Monitoring & Evaluation Program Administration Road Rehabilitation Project Transition to High Value Agriculture Project

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- [Compact Agreement](#)
- [Constraints Analysis](#)
- [M&E Plan](#)
- [M&E Plan](#)

Road Rehabilitation Project

- \$132,800,000 Original Compact Project Amount
- \$109,749,558 Total Disbursed

Estimated Benefits

Estimated Benefits for the Road Rehabilitation Project

Time	Estimated Economic Rate of Return (ERR) over 20 years	Estimated beneficiaries over 20 years	Estimated net benefits over 20 years
At the time of signing	21.1 percent	302,000	\$55,600,000
At compact closure	Not yet available	Not yet available	Not yet available

Estimated benefits correspond to \$132.8 million of project funds, where cost-benefit analysis was conducted.

Project Description

Moldova's transportation infrastructure, consisting of significantly deteriorated roads, represented a constraint to economic growth because it raised the costs of internal and external production and trade. The Road Rehabilitation Project (RRP) worked to alleviate this constraint with investments aimed at:

- increasing the real income of the population by reducing the cost of transport, goods, and services;
- reducing productivity losses to the national economy that resulted from road conditions; and
- decreasing the number of road accidents through improved traffic conditions.

The project rebuilt to international standards a 96 km segment of the M2—an arterial highway connecting Chisinau, the capital of Moldova, to Kiev, the capital of Ukraine. This route serves as a significant link between Moldova and Ukraine for passenger and commercial traffic, and Moldova identified it as a priority for rehabilitation during the development process. The compact specifically rebuilt the critical segment of the M2 that connects Sarateni (outside Chisinau) with Sorooca, an agricultural hub at the Ukrainian border.

In addition to rebuilding this key commercial artery, the project introduced higher road safety standards in Moldova and invested \$2.5 million in small social infrastructure such as schools and access roads in villages impacted by the construction. MCA-Moldova reinvested cost savings into the project and used them to, among other things, rehabilitate an additional 3 km of road, including paving roads to improve access to schools and a fire and rescue station. The project also piloted—for the first time in

Moldova—the use of iRAP,² an internationally recognized assessment program designed to enhance overall road safety. The project employed modern standards for road building, road safety, road maintenance, and community engagement. Road improvements included safety features designed to slow traffic in communities, in order to reduce fatalities in areas like schools, markets, and health posts. Curves on the road were properly banked and other sections were straightened in order to reduce accidents. MCC's design also provided side-roads for farm equipment to avoid collisions. MCA-Moldova incorporated many of these factors into the design after gathering input from local communities.

Higher standards for consultation and social protection were also introduced as part of the project, including the use of social monitoring committees in communities along the road. These community groups included local leaders and required female representation. The groups allowed local community members to have a strong voice in the design and implementation of the road, and provided a platform for improved community safety and communication with construction contractors. Group members received leadership and project management training, and delivered training to community residents and school children on traffic safety and HIV prevention³ with the help of MCA-Moldova. The groups are expected to play a role in ensuring the sustainability of local road investments.

Finally, the project introduced higher standards for resettlement. Extensive resettlement was required to expand the road right-of-way, affecting 92 plots and 85 landowners who received cash or land as compensation. The resettlement program, conducted in compliance with MCC environmental and social guidelines, cost \$850,000 to plan and implement, including all compensation.

A year ahead of the compact's end, the project was completed with the rebuilding of 96 km of roads—exceeding the originally envisioned 93 km—with roughly \$21 million in cost savings.

Evaluation Findings

Evaluation Plans: Road improvement is expected to reduce vehicle operating costs, reduce travel time, decrease maintenance costs, and increase the value of goods moved and the frequency of travel. MCC's independent evaluation of the this project will (i) determine the post compact ERR using HDM-4 analysis,⁴ (ii) assess the road maintenance system, (iii) analyze the composition of road users, and (iv) assess the transportation market structure.

Status of the evaluation:

Status of the evaluation

Component	Status
Baseline	Baseline conditions of the road, such as roughness and traffic, were collected in 2009 during the development of the feasibility and design studies.
Midline	None

Component	Status
Endline	The evaluation is scheduled for 2017, with a final report to be submitted in 2018.

Key performance indicators and outputs at compact end date

Key performance indicators and outputs at compact end date

Activity/Outcome	Key Performance Indicator	Baseline	End of Compact Target	Quarter 1 through Quarter 20 Actuals (as of)	Percent Compact Target Satisfied (as of)
Sarateni-Drochia Junction M2 Activity	Average Annual Daily Traffic	3,009	4,270	Pending	Pending
	International Roughness Index (IRI)	12	2.5	Pending	Pending
	<ul style="list-style-type: none"> The IRI is an internationally recognized measure of pavement roughness. It is measured in meters per kilometer, and represents the vertical movement of a vehicle's suspension as it travels along a road surface. An IRI of 0 indicates a road that is perfectly flat and 20 (or higher) is an extremely rough unpaved road. 				

Activity/Outcome		Key Performance Indicator		Baseline	End of Compact Target	Quarter 1 through Quarter 20 Actuals (as of)	Percent Compact Target Satisfied (as of)
	Kilometers of roads completed	0	93	96	103%		
	Reduced cost for road users (US Dollars)	0	112,000,000	Pending	Pending		
	Road fund allocation (US Dollars)	35,800,000	106,000,000	57,199,780	30%		

Explanation of Results: An independent evaluator will gather the data needed to determine some indicator results. The data will also be used to calculate a post-compact ERR.

The Government of Moldova agreed to multi-year road maintenance budget allocations in close cooperation with international financial institutions and the IMF in 2009, and met those obligations consistently from 2010 to 2014. There was a lower final allocation in 2015 that did not meet the commitment. This was the result of the Moldovan currency collapse and the financial and political crisis in Moldova.

Transition to High Value Agriculture (THVA) Project

- \$101,800,000 Original Compact Project Amount
- \$129,431,667 Total Disbursed

Estimated Benefits

Estimated Benefits for the Transition to High Value Agriculture Project

Time	Estimated Economic Rate of Return (ERR) over 20 years	Estimated beneficiaries over 20 years	Estimated net benefits over 20 years
At the time of signing	14.3 percent	112,000	\$39,900,000
Updated in 2013 following updated costs and use of new economic model	7.4 percent This figure comes from a working version of the THVA Project ERR that was not published.	Not yet available	Not yet available
At compact closure	-5.5 percent	112,000	\$-41,900,000

Benefits were calculated by estimating the returns to high value crop production compared to historical production, combined with an assumption of how many farmers would switch to high value crop production over each year of the compact in the different regions. Estimated benefits correspond to \$112.5 million of project funds, where cost-benefit analysis was conducted. \$17.7 million of the THVA budget was devoted to the Access to Agricultural Finance project, the ERR for which could not be carried out due to lack of data.

Project Description

The objectives of the Transition to High Value Agriculture (THVA) Project were to enable Moldova to benefit from its natural comparative advantage in agriculture by: (i) increasing rural incomes by stimulating growth in high-value-added agriculture; and (ii) catalyzing future investment in high-value agriculture production through the establishment of a successful business model and conducive institutional and policy environment for irrigated agriculture.

The THVA Project consisted of four reinforcing and integrated activities that, when implemented together, targeted what were recognized by both donors and domestic stakeholders to be the fundamental constraints to development in the sector: a lack of reliable access to water, limited availability of financing,

poor access to markets and technologies, and limited expertise.

The four THVA Project activities included:

- The Centralized Irrigation System Rehabilitation Activity (CISRA) restored and upgraded selected centralized irrigation systems by replacing or reconstructing pumping stations and other irrigation infrastructure, including pipe networks and reservoirs, to improve access to irrigation on agricultural land.
- The Irrigation System Reform Activity supported the goal of improving access to irrigation through technical assistance and reform. It consisted of two Sub-Activities:
 - the Irrigation Management Transfer Sub-Activity provided technical and training assistance to farmers to ensure the efficient management of the rehabilitated centralized irrigation systems by its users through Water Users Associations (WUAs);
 - the River Basin Management Sub-Activity helped enhance the overall management of water resources through policy reform, basin-level management and scenario planning, and improved water monitoring.
- The Access to Agricultural Finance (AAF) Activity aimed to increase competitiveness and profitability for farmers and post-harvest investors by enabling investments through the provision of medium- and long-term financing to increase production, cost-effectively sort and package produce, extend the production and marketing seasons, and bring produce to market.
- The Growing High Value Agriculture Sales (GHS) Activity, which was co-financed and managed by USAID, provided technical assistance, training, demonstration activities, and consulting and market intelligence services through investments designed to:
 - develop and expand market opportunities;
 - upgrade production techniques;
 - modernize the value chain system;
 - invest in higher quality phytosanitary equipment to meet pest and pathogen standards for export to international markets; and
 - support the transition to high-value agriculture and the use of irrigation in the centralized irrigation systems areas

At the end of the compact, 10 irrigation systems covering more than 11,500 hectares were rebuilt and upgraded and their management was transferred to WUAs created under the compact in those target areas.⁵ Additionally, the AAF Activity disbursed more than \$11.7 million in loans to 62 borrowers and committed \$800,000 in equipment leases during the compact. The AAF Activity continued to commit additional leases even after compact closure amounting to a total of \$4.6 million in leases benefiting 80 farmers and enterprises at the end of 2015. Finally, the GHS Activity trained more than 6,000 farmers and assisted more than 300 enterprises to increase produce sales in new global markets. During the compact, three additional WUAs were formed in areas outside of MCC's intervention established under the new Water User Association law requirements created under the compact.⁶ Signing Management Transfer Agreements is the critical next step that will allow these WUAs to assume operation and management of the irrigation infrastructure, putting the use and regulation of irrigation water in the hands of the farmers themselves.

Evaluation Findings

Evaluation Plans: The evaluation of the THVA Project will consist of two complementary components:

an impact evaluation and a performance evaluation, which will determine the extent to which activities met stated objectives and improved the productivity and profitability of farm operations in the rehabilitated centralized irrigation systems and nearby extension areas. The evaluation will also assess the extent to which the THVA Project acted as a model to catalyze additional investments in HVA production.

Status of the evaluation:

Component	Status
Baseline	Baseline report was completed in 2015. Report and questionnaires are public.
Midline	Interim results expected in 2019
Endline	Final results expected in 2022

Key performance indicators and outputs at compact end date

Key performance indicators and outputs at compact end date

Activity/Outcome	Key Performance Indicator	Baseline	End of Compact Target	Quarter 1 through Quarter 20 Actuals (as of)	Percent Compact Target Satisfied (as of)
Access to Agricultural Finance (AAF) Activity	Loan borrower (female)	0	No Target	7	No Target
	Loan borrowers	0	75	62	83%
	Loans past due (Percentage)	0	5	2.6	Satisfied
	New High Value Agriculture infrastructure in place (Metric Tons)	0	10,500	20,705	197%
	Value of agricultural and rural loans (US Dollars)	0	14,900,000	11,702,981	79%
Growing HVA Sales (GHS) Activity	Enterprises assisted	0	120	334	278%
	Enterprises assisted (female)	0	No Target	57	No Target

Activity/Outcome		Key Performance Indicator		Baseline	End of Compact Target	Quarter 1 through Quarter 20 Actuals (as of)	Percent Compact Target Satisfied (as of)
	Enterprises that have applied improved techniques	860	75	77	103%		
	Farmers trained	673	4,300	6,569	153%		
	Farmers trained (female)	0	No Target	2,333	No Target		
	Farmers who have applied improved practices as a result of training	0	2,800	2,452	88%		
	The Central Phytosanitary Lab is certified	Date	Aug-14	Pending	Completed in Closure Period		
	Value of sales facilitated (US Dollars)	0	31,500,000	29,954,859	95%		
Irrigation Sector Reform Activity (ISRA)	Management Transfer Agreements signed	0	11	10	91%		
	Revised Legal Water Management Framework	Date	Aug-13	Nov-13	Complete		
	Water User Associations with active and representative governance	0	11	10	91%		
Rehabilitation of Centralized Irrigation System Activity (CISRA)	Centralized irrigation system rehabilitated	0	11	10	91%		
	Hectares under improved or new irrigation	0	15,500	11,526	74%		

Explanation of Results: At compact signing, the ERR estimate was 14.3%. At the end of the compact's third year, this was adjusted down to 7.4% after estimated costs were updated and the methodology for estimating the benefits were also updated. Due to two key reasons discussed below, the calculated ERR fell to negative 5.5% at compact closure.

When calculating the estimated economic rate of return, MCC and the Government of Moldova expected that farmers would transition to the new technology required to take advantage of new irrigation systems at a certain rate. By the end of the compact, MCC reduced these transition rates after key assumptions were revised with new information. A survey of farmers in early 2015 showed that farmers were planning to use the new irrigation to cultivate high value agriculture crops on approximately half of the land in the improved irrigation systems. The original ERR assumed 45 percent of land would be irrigated at the time of project completion, with the remaining farmers switching to HVA crops over eight years.

MCC is reviewing whether the original assumptions sufficiently incorporated constraints to adoption, such as availability of labor in local markets (high-value agriculture cultivation requires more labor) or farmers' existing access to machinery, storage and market contacts focused on non-high value agriculture crops. A further factor under review is whether farmers may have been more risk-averse and reluctant to move into a new market without support that could not be provided by the project because the irrigation rehabilitation was not completed until the compact's final year. More information on the results of the project and reason for slow transition rates will be available following the completion of the impact evaluation.

The ERR was also affected by a sharp depreciation of Moldova's currency that occurred toward the end of the compact, leading to increased costs associated with importing and purchasing agricultural equipment necessary for cultivating high-value crops. The Moldovan leu depreciated by approximately 57 percent during the compact term, including a drop of 37 percent in the final year of the compact.⁷

It is important to note that while the final closeout ERR for this particular project was lower than originally estimated, a successful outcome of the THVA Project was the implementation of some of the legal reforms necessary to transform Moldova's agricultural sector. For example, the new WUA law created an enabling environment for Moldovans who wanted to transform the agricultural economy. There is evidence that farmers are interested in replicating the WUA model, and in attracting additional investments to rehabilitate Moldova's remaining irrigation systems. For instance, an additional four water users associations were formed in Moldova in locations where the compact did not rehabilitate irrigation systems. The creation of the new WUAs demonstrates to potential investors and donors a demand for additional investment in other irrigation systems that could be managed and sustained by local farmers after rehabilitation. To further support sustainability of the WUAs created under the compact and attract additional donor support for irrigated agriculture in the country, the Government of Moldova created the Sustainable Development Account-Moldova (SDAM) at compact closure (more details below). Additional reporting in the coming years will show how much impact the legal reforms required by the compact have had and how successful the WUAs have been at managing the irrigation systems.

The THVA project originally included plans to partially rehabilitate up to 11 centralized irrigation systems and form and train 11 WUAs to take over operation of those systems. Original targets were for 11

centralized irrigation systems rehabilitated, 11 WUAs with active and representative governance, and 11 Management Transfer Agreements signed. However, a 2012 midstream correction (see below) revealed higher costs, and the Government of Moldova and MCC reduced the project scope with only 10 systems fully rehabilitated with compact funding. Farmers in the 11th system, located in Cahul, formed a Water User Association independently and were trained alongside the other WUAs. However, because their irrigation system was not improved under the project, management of the system was not formally transferred to the WUA.

Compact Changes

Road Rehabilitation Project

- Because of cost savings, MCC was able to reallocate \$21 million dollars in 2013 from the Road Rehabilitation Project to cover budget shortfalls in the THVA Project's Centralized Irrigation Systems Rehabilitation Activity.

Transition to High Value Agriculture Project

- The Centralized Irrigation Systems Rehabilitation Activity component of the THVA Project underwent a successful midstream correction in 2012-13. MCC determined that the strategy of partial rehabilitation reflected in the original project design was neither optimal nor feasible due to higher than anticipated costs. The redesign resulted in new pipe layouts, which better served current land use patterns and brought in newer, more energy-efficient technology. While the costs were higher, estimated ERRs remained sufficiently strong at the time of the midstream correction. The program was able to use \$21 million in savings from the Road Rehabilitation Project to make the redesign possible.
- Because of increases in rehabilitation costs outlined above, the maximum scope of the Centralized Irrigation Systems Rehabilitation Activity was reduced to 10 centralized irrigation systems with a surface of approximately 11,500 hectares (not including potential extension areas) from the original maximum of 11 central irrigation systems and approximately 15,500 hectares. Although high costs and technical challenges meant only 10 of the original 11 irrigation systems were constructed, all 11 Water User Associations were formed and trained.
- Eligibility criteria for financing under the AAF Activity were modified several times throughout the compact to better target farmers and achieve the objective of the activity. In October 2012, MCA-Moldova reduced the scope of coverage under the AAF Activity from nationwide to the 15 administrative units expected to offer benefits to centralized irrigation systems producers. These units were chosen based on proximity to centralized irrigation systems investments and their location near command areas and major markets for fresh produce. In light of consistent demand for AAF Activity loans outside the areas served by the rehabilitated centralized irrigation systems, MCA-Moldova re-broadened the geographic scope of the activity in April 2015 to reach additional beneficiaries.

In 2015, the AAF Activity was expanded to include a leasing component to provide financing for on-farm irrigation and other equipment. Compact funds were added to 2KR, an existing leasing facility created and supported by Japanese and European Union donor funding.

Coordination and Partnerships

The Moldova Compact is an example of successful donor coordination. Throughout the compact development process, MCC and Moldovan Government teams worked closely with the two donors most active in the agriculture and transport sectors in Moldova – USAID and the World Bank. The THVA Project builds on previous work and lessons from both of these donors, and avoids duplication of ongoing projects. MCC and the Moldovan Government also worked closely with the European Union, the World Bank, the Organisation for Economic Co-operation and Development (OECD), and the United Nations Development Fund for Women (UNIFEM) on environmental and social issues such as water resource management and gender. Close collaboration also occurred with the European Bank for Reconstruction and Development (EBRD), EU and the World Bank on the Road Rehabilitation Project.

The Growing High Value Agriculture Sales Activity in THVA Project, which provided technical assistance to farmers to better access markets and support the shift to higher value agriculture, was designed and undertaken jointly with USAID. USAID launched a follow-on agricultural market development project in 2017 expected to reinforce MCC's compact investments in irrigated agriculture, including continued capacity building among Water User Associations.

Input and collaboration between the World Bank and MCC played a significant role in the development of access to agricultural finance, irrigation management transfer, and food safety components and interventions. The World Bank provided contacts, studies, lessons and informal peer review at all stages of the process.

In November 2010, International Financial Institutions (IFIs), including the World Bank, EU, European Investment Bank, and the EBRD, transferred the coordination of the Joint Team on Transport to MCC, selecting the MCC road project lead as the IFI Team's coordinator during the remaining compact period. Under MCC's coordination, the IFIs helped the Moldovan Government increase its road maintenance funding by more than 60 percent between 2010 and 2015.

Conditions Precedent

To encourage desired investment outcomes under the compact, MCC and the Government of Moldova agreed that the following conditions had to be met before critical funding would be available:

Key Conditions Precedent

Key Compact Component(s)	Major Condition Precedent or Policy Reform Required	Rating
Road Rehabilitation Project	<p>Road Rehabilitation Project</p> <p>Prior to the earlier of (i) the release of invitations for bids for road rehabilitation work funded under the compact for the RRP, or (ii) the date one year following entry into force of the compact, unless MCC agrees otherwise in writing, the Government of Moldova will provide evidence that an amended Road Fund Law is in full force and effect, which ensures that a minimum of 50 percent in calendar year 2011, 65 percent in 2012, and 80 percent in year 2013 and thereafter, of revenue from the fuel excise tax is automatically allocated to the Road Fund.</p>	Met
Transition to High Value Agriculture Project	<p>Transition to High Value Agriculture Project</p> <p>Prior to the release of invitations to bid for any construction contract for the Centralized Irrigation System Rehabilitation Activity, unless MCC agrees otherwise in writing, the Government of Moldova will have delivered documentation acceptable to MCC evidencing publication in the “Monitorul Oficial” of a Water Law in form and substance acceptable to MCC and in compliance with international best practices, including the provision of water rights for a minimum of 12 years.</p>	Met

Key Compact Component(s)	Major Condition Precedent or Policy Reform Required	Rating
Transition to High Value Agriculture Project	<p>Transition to High Value Agriculture Project</p> <p>Prior to signing the detailed design studies contract for the Centralized Irrigation System Rehabilitation Activity, unless MCC agrees otherwise in writing, the Government of Moldova will have delivered documentation acceptable to MCC evidencing publication in the “Monitorul Oficial” of a WUA law in form and substance acceptable to MCC and in compliance with international best practices; law will be in full force and effect no later than three (3) months after the date of publication.</p>	Met

Lessons Learned

A few preliminary lessons can be drawn from the challenges implementing the THVA Project ahead of compact evaluations.

Information collected in 2015 indicates a lower impact of the THVA Project than initially estimated, partially due to lower than anticipated rates of transition by farmers to the new irrigated systems. While the compact included support for behavior change activities in the design of the THVA project, the project may have benefited from a more robust incorporation of behavior change with mechanisms included in the project to ensure that it occurred and continued to be prioritized during implementation. Additionally, the irrigation infrastructure was completed very close to the end of the compact, which limited the amount of support that could be provided under the project for behavior change activities and training. Construction schedules could have been monitored more closely to ensure that there was ample time for training and support of adoption following completion of the projects.

Another challenge for the THVA Project was a sharp depreciation of the Moldovan currency, which raised the price of imported equipment and reduced the buying power of farmers. Some exchange rate volatility is normal, but this was exceptional in the wake of the global financial crisis. This is not the first compact where the closeout ERR was impacted by unexpected exchange rate shocks. Future MCC compacts can consider financial tools that can reduce the risk of exchange rate volatility.

Endnotes

1. A cold chain is the series of refrigerated production, transport, and storage activities and associated equipment that maintain a low temperature to ensure extended shelf life of products such as fresh produce.
2. The International Road Assessment Program, or iRAP, is an organization dedicated to preventing road deaths worldwide. More information is available on their website, www.irap.net.
3. Worker camps during construction are primary channels for transmission of HIV and other sexually transmitted diseases, and STD and HIV prevention programs are therefore a standard part of most of MCC's construction projects.
4. The Highway Development and Maintenance (HDM-4) and Road Economic Decision (RED) models are MCC's standard tools to evaluate roads. Both models take into account vehicle operating cost savings and time savings as part of a decision making tool for road investments.
5. An 11th WUA was established and received training; however, its irrigation system was not rehabilitated.
6. The Dajida-Prim WUA in Gura Bicului village registered in December 2013 and signed a Management Transfer Agreement (MTA) in June 2014. The Apele Prutului WUA in Bogdanesti village and Apele Nordului WUA in Corestauti village both registered on April 3, 2013. Following the close of the compact, an additional WUA formed in Costesti village on February 18, 2016. As of February 2017, the WUAs in Bogdanesti, Corestauti, and Costesti were coordinating with authorities to sign Management Transfer Agreements
7. The currency devaluation affected the THVA Project disproportionately because it relied heavily on imported equipment and construction was still ongoing at the time of devaluation. The Road Project involved less imported equipment and was largely complete by the time the devaluation occurred.

Reducing Poverty Through Growth

